

Work Order ID 153323

Wednesday, November 16, 2016 9:18:18 AM

153323

Page 1

Item ID: 647.1514

Accept

N900040100

Setup Start

***NS1**

Revision ID:

Stop

***NS2**

Item Name: Upper Deflector

Start Date: 11/21/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 12/2/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date: 16-11-16

Tooling:

Date:

Run Start

***NR1**

QC:

Date:

SPC (Y/N):

Date:

Stop

***NR2**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	---------------

Draw Nbr

Revision Nbr

647.1500

REV D

100

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank at 19.500"

*** ONE BLANK MAKES TWO PARTS***

0.00

0.08

3

19

16-11-22

110

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB465

DWG REV: D

FOLIO REV: 44

2- deburr and break all sharp edges

0.61

0.87

6

10

16-11-24

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
2AU of 32-3									
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐			FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐						
OTHER : ☐									

Work Order ID 153323

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Page 2

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Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Upper Deflector

Start Date: 11/21/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 12/2/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.01

Quality Control

6

Ø

DAS
20
9-89

16-11-24

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.02

Quality Control

6

Ø

DAS
44
9-89

16-11-24

140

Outsource process-Anodize per QSI017 4.1.10.1

0.00

140

Outsource4

Memo

179.99

Outsource process - Anodize

Issue P/O to ATG :

34432

1- Black Anodize as per MPP-172, section 2.1

2- Prime as per MPP-172, section 3.3 & 4.3

Certification of Conformity is required

6

NOV 25 2016

DAS
13
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
240 24				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 153323

Wednesday, November 16, 2016 9:18:18 AM

153323

Page 3

Item ID: 647.1514 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Deflector
Start Date: 11/21/2016 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 12/2/2016 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.02							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155	Record Paint Thickness: <u>1.5</u>								
QC	Memo	0.02							
Quality Control									
180	Identify as per dwg & Stock Location: <u>CC15</u>	0.00							
180									
Packaging	Memo	0.01							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

6X 8X 50/6-12-15

6

DAS 38 9-89

DEC 15 2016

6

DAS 6 9-89

DEC 15 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Work Order ID 153323

Wednesday, November 16, 2016 9:18:18 AM

153323

Page 4

Item ID: 647.1514 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Deflector
Start Date: 11/21/2016 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 12/2/2016 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.10							
Quality Control									

DEC 15 2016

DEC 15 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																		
Description Work Order Deviation				Disposition																					
Root Cause		FAULT CATEGORY																							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
Misidentified ☐	Past Due ☐																								

Picklist Print

Wednesday, November 16, 2016 9:18:24 AM

Page 1

Work Order ID: 153323

153323

Parent Item: 647.1514

647 1514

Parent Item Name: Upper Deflector

Start Date: 11/21/2016

Required Date: 12/2/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 16-11-15 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B0.375X6.000		Purchased	No				f	12.0000		5.134737			

M7075T6B0 375X6 000

7075-T6 Plate 0.375" X 6.000", QQ-A 250/12

Location

Loc Qty

Loc Code

MAT005

12

m135187

12

5.14

DAS
14
9-89

11/16/12

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

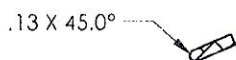
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
2AO DT 08-0				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
N/C	LAST PROTOTYPE REVISION: P1		N/C
N/C	INITIAL RELEASE	08/10/09	P. BRAVO
A	INCORPORATED ECH 02940 04674, 04743	11/17/14	P. BRAVO
B	INCORPORATED ECH 05351	02/29/16	P. BRAVO
C	INCORPORATED ECH 05344	03/15/16	P. BRAVO
D	INCORPORATED ECH 05351	11/01/16	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH PER MPP-172 SECTION 2.1, 3.3 & 4.3, 1-2 MIL MAX
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120
- 5 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 & 3 UPON ASSY
- 6 MAKE FROM 647.1513



SECTION A-A

Ø.177
3PL

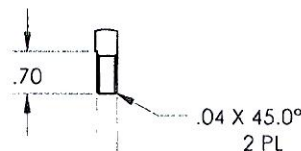
.30 X 23.0°

2.110 ±.002

R1.00

DETAIL B

.38
647.1510



DETAIL C

13.81

10.27

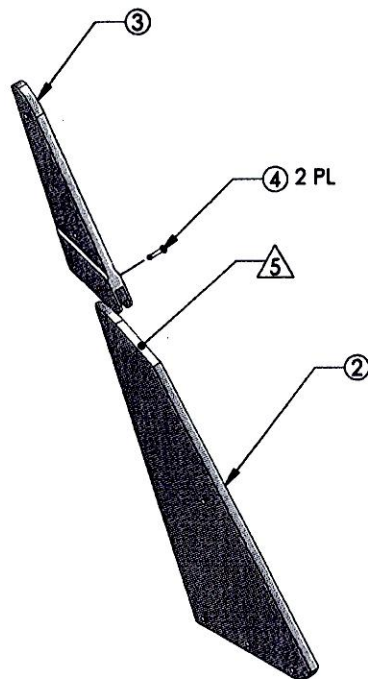
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 153223
2176-1-16

	7	647.1514	UPPER DEFLECTOR		
	6	647.1513	UPPER DEFLECTOR		
A/R	5	601.2045	RTV, LOCTITE 598		
2	4	600.0523	RIVET	MS20470AD4-12	
1	3	647.1512	BREAKAWAY TIP		
1	2	647.1511	LOWER DEFLECTOR		
	1	647.1510	UPPER DEFLECTOR		
X		647.1501	TOWER DEFLECTOR ASSY		
	FIND #	PART #	DESCRIPTION	MATL	SPEC.

QTY	ORIGINAL DATE	DESCRIPTION	MATL	SPEC.
	08-10-09			
NEXT ASSY (S)				
647.1400				
DRAWN BY: J. GARDNER				
CHECKED BY: P. BRAVO				
DESIGNING APPROVAL: P. BRAVO				
CONTRACT NO.				
UNLESS OTHERWISE SPECIFIED				
DIMENSIONS ARE IN INCHES				
TOLERANCES ARE:				
2 PLACE DECIMALS .01				
3 PLACE DECIMALS .005				
ANGLES .5°				
DART AEROSPACE 3030 ENTERPRISE CT., SUITE A, VISTA, CA, 92081 (760)-724-5300				
DEFLECTORS				
SIZE	CAGE CODE	DWG. NO.	REV.	
B	07M26	647.1500	D	
SCALE: NONE			SHEET 1 OF 7	

1 2 3 4 5 6 7 8

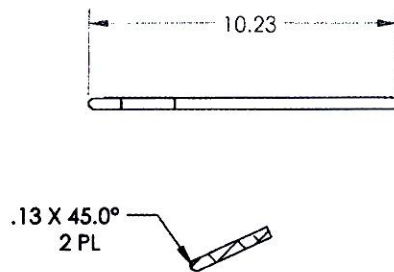
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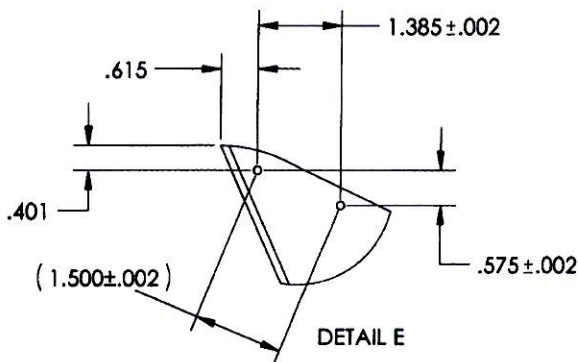
647.1501 SHOWN EXPLODED

ORIGINAL DATE 10-04-78		06-10-09	
DRAWN BY J. GATONER		P. BRAVO	
DRAWING APPROVAL P. BRAVO		06-10-09	
CONTRACT NO.			
DART AEROSPACE APICAL INDUSTRIES INC. DBA DART AEROSPACE 3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760) 724-5300			
DEFLECTORS			
SEE B	CAGE CODE 07M26	DWG. NO. 647.1500	REV. D
SCALE NONE		SHEET 2 OF 7	

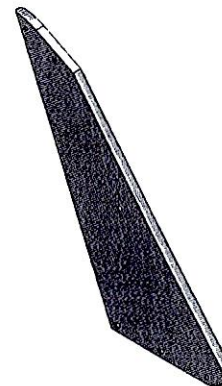
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



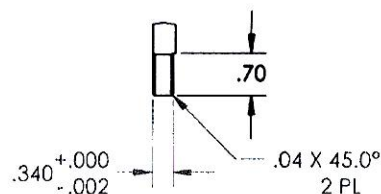
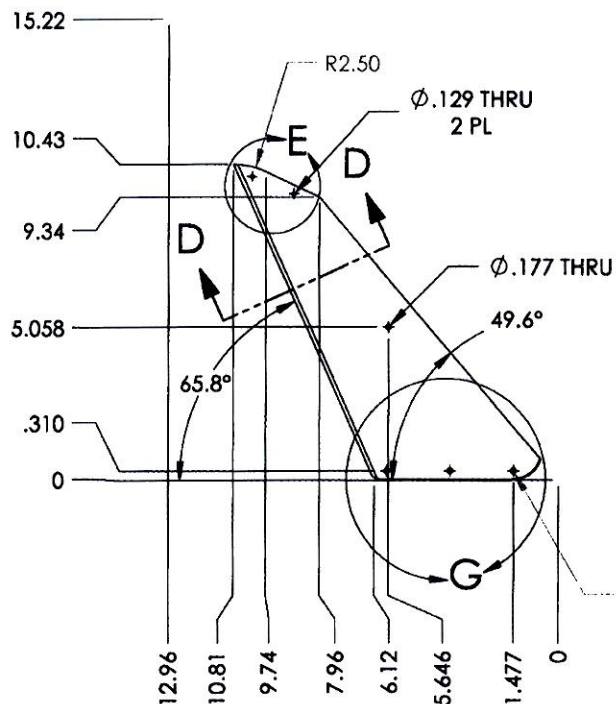
SECTION D-D



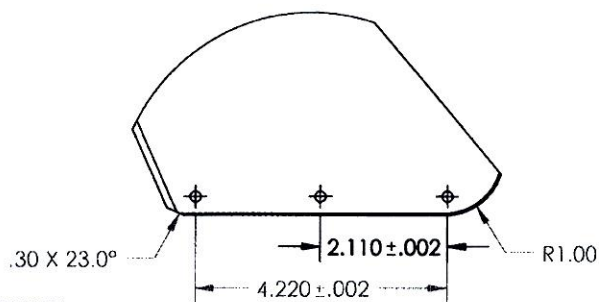
DETAIL E



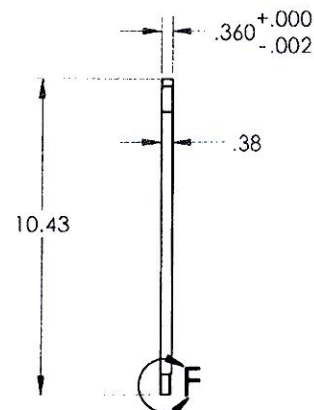
647.1511



DETAIL F



DETAIL G

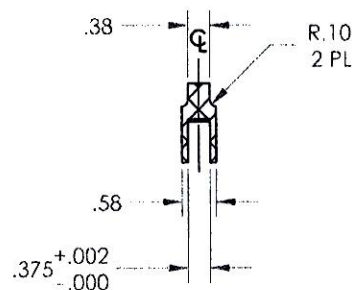
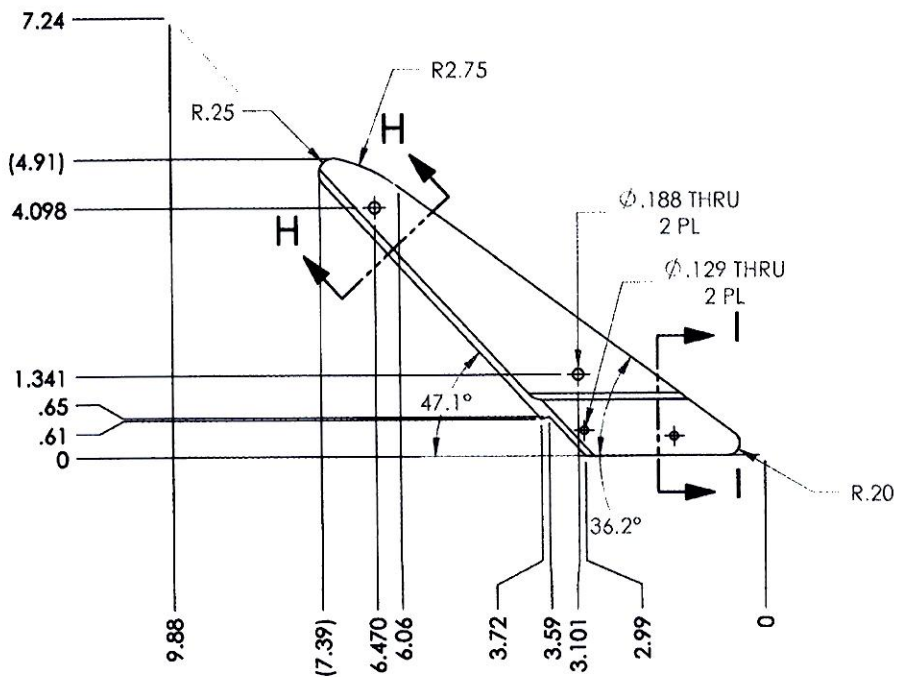


ORIGINAL DATE 04-10-09		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY J. CHIEVER		DART AEROSPACE	
DESIGNED BY P. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
DRAWING APPROVAL P. BRAVO		DEFLECTORS	
CONTRACT NO.		SCALE NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE B	CAGE CODE 07M26
		DWG. NO. 647.1500	REV. D
		SHEET 3 OF 7	

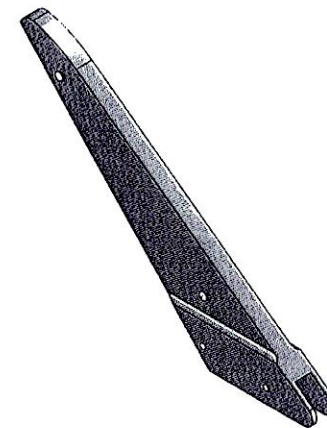
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.

.13 X 45.0°
2 PL

SECTION H-H



SECTION I-I



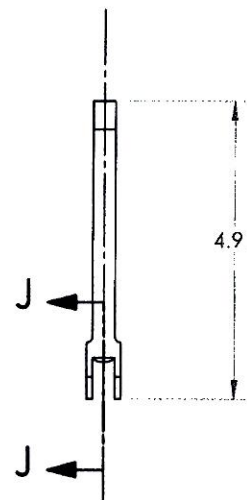
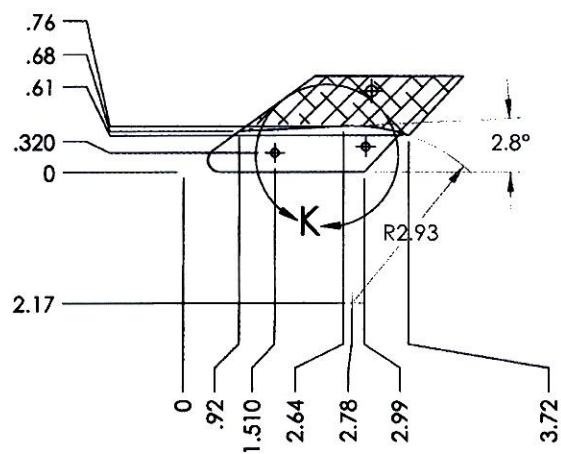
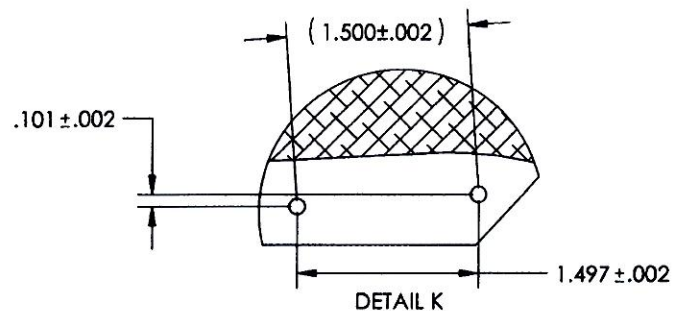
647.1512

ORIGINAL DATE (WDC-06-78)	06-10-09	 DART AEROSPACE 3030 ENTERPRISE CT. SUITE A VISTA, CA 92081 (760)-724-5300 ANAL INDUSTRIES, INC. CRO DART AEROSPACE		
DRAWN BY J. GARDNER	P. BRAVO			
DRAWING APPROVAL P. BRAVO				
CONTRACT NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 7 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .5°				
REV. B	CAGE CODE 07M26	DWG. NO. 647.1500	REV. D	
SCALE NONE		SHEET 4 OF 7		

DART 3030 ENTERPRISE CT., SUITE A
VISTA, CA. 92081
(760) 724-5300
AEROSPACE
APICAL INDUSTRIES INC.
DBA DART AEROSPACE

DEFLECTORS

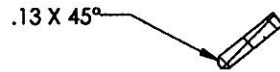
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



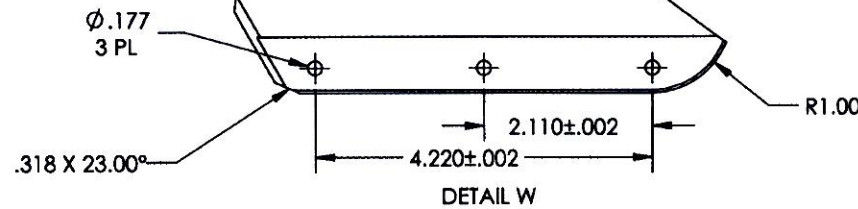
647.1512 RIGHT VIEW

ORIGINAL DATE 04-10-24		3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300	
DRAWN BY J. GARDNER		APICAL INDUSTRIES INC. DBA DART AEROSPACE	
CHECKED BY P. BRAVO		DEFLECTORS	
DRAWING APPROVAL P. BRAVO		SCALE NONE	
CONTRACT NO.		SHEET 5 OF 7	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET 5 OF 7	REV. D

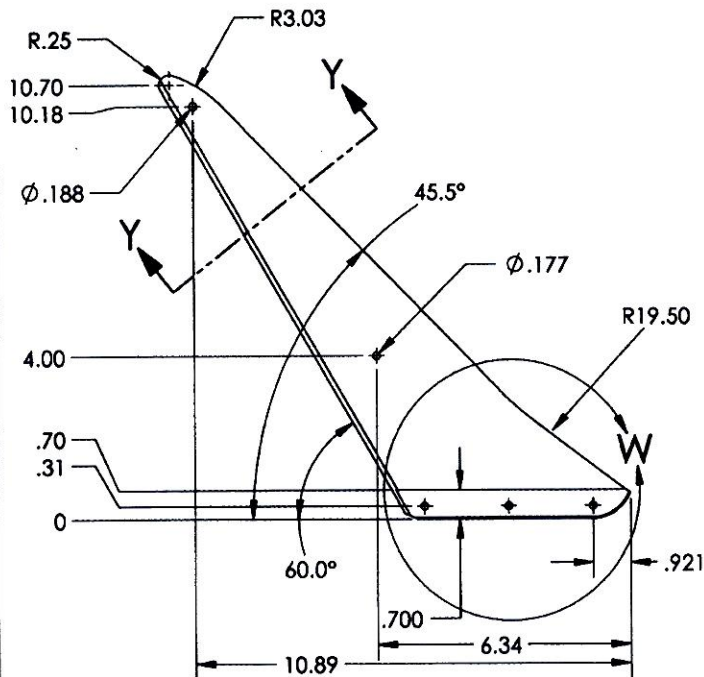
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



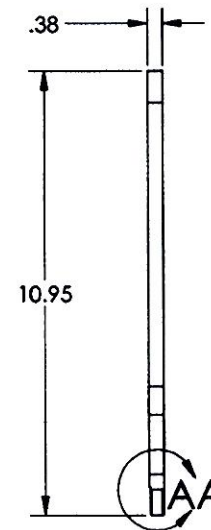
SECTION Y-Y



DETAIL W

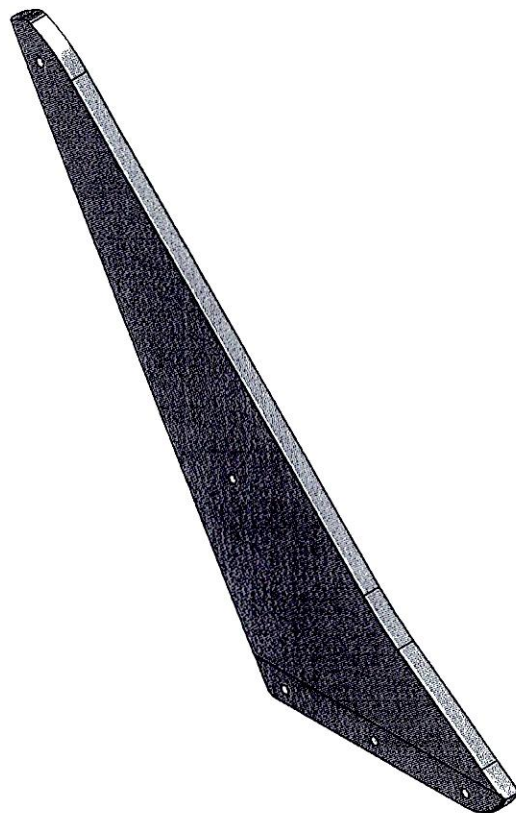


DETAIL AA

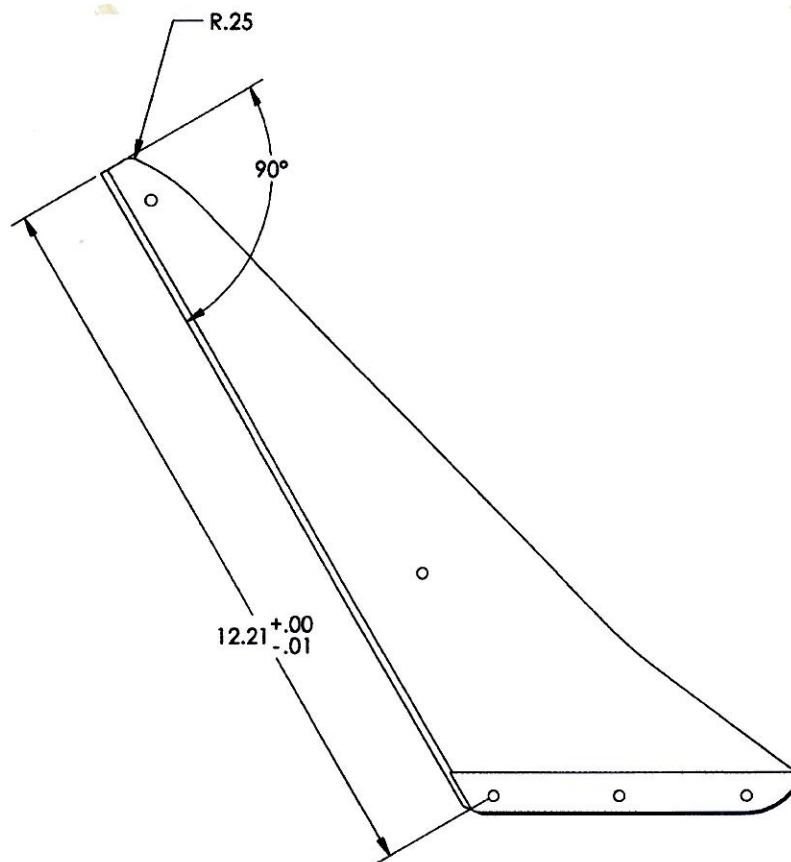


ORIGINAL DATE: 04-10-20 DRAWN BY: CHICKER CHECKED BY: P. BRAVO DRAWING APPROVAL: P. BRAVO DESIGNED BY: P. BRAVO CONTRACT NO.:	 DART AEROSPACE APICAL INDUSTRIES, INC. dba DART AEROSPACE	3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-5300
		DEFLECTORS
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		
SIZE: B	CAGE CODE: 07M26	DWG. NO.: 647.1500
SCALE: NONE		REV. D
		SHEET 6 OF 7

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APCAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APCAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



647.1514 $\triangle 6$



ORIGINAL DATE (MO-DA-YR) 06-10-09		DART 3030 ENTERPRISE CT., SUITE A AEROSPACE VISTA, CA. 92081 APCAL INDUSTRIES INC. DBA DART AEROSPACE (760)-724-5300		
DRAWN BY A. GANDNER	CHECKER P. BRAVO			
DRAWING APPROVAL P. BRAVO	DATE 06-10-09			
CONTRACT NO.				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$				
DEFLECTORS		SIZE B CAGE CODE 07MZ6	DWG. NO. 647.1500	REV. D
		SCALE NONE	SHEET 7	OF 7



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34432**

Purchase Order Date 11/25/2016

PO Print Date 12/2/2016

Page Number 2 of 6

Order From :

VC-ATG001

Ship To : DART AEROSPACE LTD

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

613-446-4544

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

VENDOR'S TRUCK

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

FCA - (Free Carrier)

3	153551	647.1513 UPPER DEFLECTOR REV. D	12/12/2016	4.00	\$12.05	\$48.20
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Yes

12/12/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total:

\$48.20

4	153323	647.1514 UPPER DEFLECTOR REV. D	12/12/2016	6.00	\$12.05	\$72.30
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Yes

12/12/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Line Total:

\$72.30

5	153314	647.1914 BRACKET REV. N/C	12/12/2016	5.00	\$8.50	\$42.50
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Yes

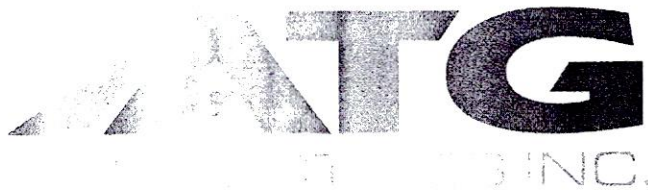
12/12/2016

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE I CLASS N

Note:

DAS
38
9-89

12/2/2016



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912681

Date: 12-Dec-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

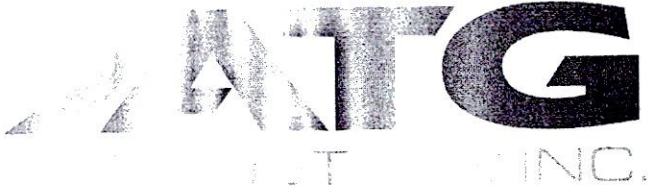
Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms		Ship Via	
Quantity	Description		
	Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20436	PO: 34432	Line: 3
6 ea	Part: 647.1514 ✓ Upper deflector Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20437	PO: 34432	Rev: D Line: 4 <i>Sub-b-15.</i>
5 ea	Part: 647.1914 Bracket Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20438	PO: 34432	Rev: N/C Line: 5
8 ea	Part: 647.7611 Lower deflector Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20439	PO: 34432	Rev: N/C Line: 6
6 ea	Part: 647.7612 Breakaway Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20440	PO: 34432	Rev: N/C Line: 7
7 ea	Part: 647.7810 Bracket Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20441	PO: 34432	Rev: A Line: 8
7 ea	Part: 647.7811 Bracket		Rev: A



A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE STREET
ROCKLAND, ON K4K 1T2
Canada

Ph: (613) 446-4544

Fax: (613) 446-4556

Pack List

Number: 912681

Date: 12-Dec-16

To

Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ship To

CHANTAL LAVOIE
Dart Aerospace Ltd
1270 Aberdeen St
Hawkesbury, ON K6A 1K7

Ph: 613 632-9577

Fax: 613 632-1053

Ph: 613 632-9577

Fax: 613 632-1053

Terms	Ship Via
Quantity	Description
	Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20442 PO: 34432 Line: 9
12 ea	Part: 647.7815 Rev: A FWD bracket Hard Anodize, Type III, Class 2 (MIL-A-8625) Primer, MIL-P-23377J, TYPE 1, CLASS N Job: 20444 PO: 34432D Line: 11
DATE: 12/12/16	
CERTIFIED SIGNATURE: [Signature]	
RECEIVER SIGNATURE: [Signature]	
Note: This Packing Slip may contain parts that have been PLATED. Items that are plated may be subject to natural tarnishing and it is suggested that they be inspected within 24 hours of receipt.	
CERTIFICATE OF CONFORMANCE	
A.T.G. INDUSTRIES INC. CERTIFIES THAT ALL ITEMS IN THIS SHIPMENT CONFORM TO REQUIREMENTS	
MADE IN CANADA.	